

Appl. No. 10/598,135  
Amdt. Dated June 30, 2010  
Reply to Office Action of March 30, 2010

**Amendment to the Claims:**

This listing of claims will replace all prior versions, and listing, of claims in the application:

**Listing of Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application.

1. (currently amended) A separation device for the separation of constituents of different density of well fluids from a well, the separation device including a container having an inner wall, a feed line transporting the fluid into the container, the fluid flowing adjacent the inner wall and at least partially being separated in the container into its constituents using centrifugal force in the radial direction and/or using gravitational force in the vertical direction, the separation device further including

a classifier device arranged in a lower section of the container having at least one discharge line extending in the radial direction outwards for the discharge of the fluid adjacent the inner wall of the container and causing the application of a centrifugal force on the fluid and a plurality of delivery lines joined to the container at different levels in the vertical direction to receive for the separated fluid constituents, wherein the container is rotationally fixed with respect to the at least one discharge line.

2. (currently amended) The separation device according to claim 1, wherein the discharge line is in a generally spiral shape at least adjacent to its discharge opening and wherein the classifier device includes a vertical casing having a plurality of inlets at different vertical levels and each one of the plurality of delivery lines extends within the vertical casing to one of the different vertical levels to receive a separated fluid constituent.

3. (currently amended) The separation device according to claim 1, wherein the discharge line extends radially outwards and vertically upwards with the shape of a spiral around a vertical pipe of the classifier device arranged centrally in the container.

4. (currently amended) The separation device according to claim 1, wherein the classifier device includes a vertical pipe and a fluid line terminates within the vertical pipe and the fluid enters the discharge line from within the vertical pipe.

5. (currently amended) The separation device according to claim 13 wherein the classifier device includes a vertical pipe and the vertical pipe is subdivided in the longitudinal direction into a plurality of pipe sections separated from one another, the fluid feed line terminating in a first lower pipe section and each of the further pipe sections above the first pipe section having at least one of the delivery lines terminating and communicating with the each of the further pipe sections.

6. (currently amended) The separation device according to claim 53 further including openings formed in a pipe casing of the vertical pipe at least in the region of the further pipe sections.

7. (canceled)

8. (canceled)

9. (currently amended) The separation device according to claim 13 wherein the classifier device includes a vertical pipe and further including two discharge lines extending from the vertical pipe and being generally coil shaped radially outwards and extending vertically upwards.

10. (previously presented) The separation device according to claim 1 wherein the discharge line has a number of openings on its outer side, generally in the radial direction.

11. (currently amended) The separation device according to claim 13 wherein the classifier device includes a vertical pipe and has at least one blade segment protruding radially outwards from the vertical pipe supporting the at least one discharge line.

12.-14. (canceled)

15. (currently amended) The separation device according to claim 13 wherein the classifier device includes a vertical pipe and the container has a bottom plate enclosing the vertical pipe with outlet openings for at least the fluid constituent with the greatest density.

16. (currently amended) The separation device according to claim 13 wherein the classifier device includes a vertical pipe and the delivery lines within the vertical pipe have generally vertically extending line sections which are connected to at least one rotary slide valve.

17.-20. (canceled)

21. (previously presented) The separation device according to claim 5 wherein at least one level sensor is assigned to each pipe section.

22. (currently amended) The separation device according to claim 13 wherein the classifier device includes a vertical pipe and at least one sensor device is disposed in an upper end of the container and / or the vertical pipe.

23. (previously presented) The separation device according to claim 1 further including at least one feedback line disposed between the separation device and the well.

24. (currently amended) The separation device according to claim 1 wherein the separation device is a replaceable as-part of a tree on the sea bed.

25. (previously presented) The separation device according to claim 1 wherein the separation device has a frame structure for mounting at least the container, lines, pumps, valves, throttles or similar equipment subsea.

26. (previously presented) The separation device according to claim 1 wherein the separation device is connected to an electrical supply and control unit positioned subsea adjacent the container.

27. (previously presented) The separation device according to claim 1 further including at least one changeover valve arranged in the well fluids feed line.

28. (previously presented) The separation device according to claim 1 further including a bypass pipeline that branches from the well fluids feed line.

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29. (previously presented) The separation device according to claim 1 wherein the container is essentially spherical or silo-shaped.

30. (previously presented) The separation device according to claim 1 wherein the container is of modular construction.

31. (currently amended) A separator for separating the constituents of well fluids from a well, the separator comprising:

a container housing a plurality of spiral tubes having at least one inlet and selected outlets, the container being rotationally fixed with respect to the plurality of spiral tubes;

said at least one inlet receiving the well fluids and using centrifugal force in the radial direction to separate the constituents which exit the selected outlets into the container;

the constituents separating in the container using gravitational force at different vertical levels in the container in accordance with their different densities;

a plurality of discharge compartments arranged vertically within the container in accordance with the densities of the constituents; and

each discharge compartment communicating with a discharge pipe for removing a constituent from the container.

32. (previously presented) The separator of claim 31 wherein the container is integrated with a subsea tree.

33. (previously presented) The separator of claim 31 wherein the constituents include sand, water, and gas and further including a reinjection tree communicating with the discharge pipes whereby such constituents are reinjected into a reinjection well.

34. (previously presented) The separator of claim 32 further including rotary slide valves for controlling flow through the discharge lines.

35. (canceled)

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36. (currently amended) The separation device according to claim 5 wherein a length of the pipe sections may be varied is variable.

37. (previously presented) The separation device according to claim 5 wherein the pipe sections are separated by intervening bottoms.

38. (previously presented) The separation device according to claim 11 wherein the blade segment has openings for the accommodation and / or mounting of the discharge line.

39. (previously presented) The separation device according to claim 38 wherein the openings are arranged along a radial outer end section of the blade segment.

40 (previously presented) The separation device according to claim 39 wherein the openings are formed as a partially open edge recess of the blade segment.

41. (previously presented) The separation device according to claim 16 wherein the line sections following the rotary slide valve and using a multibore connector can be connected to transport lines for the further transport of the constituents of the well fluids.

42. (previously presented) The separation device according to claim 41 wherein the fluid feed line is connected via the rotary slide valve and multibore connector to a well fluids line which feeds the well fluids from the well.

43. (currently amended) The separation device according to claim 41 wherein a flow control valve is arranged in one or more of the transport lines.

44. (previously presented) The separation device according to claim 43 wherein a throttle device and / or a metering valve follows the flow control valve.

45. (previously presented) The separator of claim 34 wherein the rotary slide valves are actuated electrically subsea.